Lesson 5 - Wireless Networking Standards

In this lesson, students will learn about 802.11 wireless networks, their types, and their key features. The lesson begins with a bell-ringer activity where students identify common wireless network names. The teacher then introduces the concept of 802.11 wireless networks and their significance in wireless communication and internet access. The different types of 802.11 networks, such as 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac, and 802.11ax, are explained, highlighting their frequency bands, data transfer rates, and compatibility. In guided practice, students work in small groups to discuss handouts with information on these networks. They ask questions and seek clarification as needed. For independent practice, students research and write a short paragraph on one type of 802.11 wireless network, including its key features, advantages, and disadvantages. The lesson concludes with an exit ticket to assess students' understanding and a review of the main points covered. Students are encouraged to continue exploring and learning about wireless networks on their own.

Objectives:

- Students will be able to define and explain the concept of 802.11 wireless networks.

- Students will be able to identify and list various types of 802.11 wireless networks.

- Students will be able to compare and contrast different types of 802.11 wireless networks.

Materials:

- Whiteboard or blackboard

- Markers or chalk

- Handouts with information on different types of 802.11 wireless networks

- Computers or mobile devices with internet access (optional)

Bell-Ringer Activity:

- Display a list of common wireless network names on the board.

- Ask students to identify which ones are 802.11 wireless networks.

- Discuss their answers as a class.

Introduction:

- Begin the lesson by explaining the concept of 802.11 wireless networks.

- Discuss how these networks are used for wireless communication and internet access.

- Emphasize the importance of understanding different types of 802.11 wireless networks.

Direct Instruction:

- Present a brief overview of the different types of 802.11 wireless networks, including:

- 802.11a

- 802.11b

- 802.11g

- 802.11n

- 802.11ac

- 802.11ax

- Explain the key features and characteristics of each type, such as frequency bands, data transfer rates, and compatibility.

Guided Practice:

- Divide the class into small groups.

- Distribute handouts with information on different types of 802.11 wireless networks.

- Instruct each group to read the information and discuss the key points.

- Encourage students to ask questions and seek clarification as needed.

- After a designated time, bring the class back together and have each group share their findings.

Independent Practice:

- Assign each student to research and write a short paragraph on one type of 802.11 wireless network.

- Instruct students to include information on its key features, advantages, and disadvantages.

- Encourage students to use reliable sources and cite their references.

- Provide time for students to complete their assignments.

Exit Ticket:

- Ask students to write down three key differences between 802.11n and 802.11ac wireless networks.

- Collect the exit tickets to assess students' understanding of the topic.

Closure:

- Review the main points covered in the lesson.

- Summarize the different types of 802.11 wireless networks and their key features.

- Emphasize the importance of understanding these networks in the context of modern technology and communication.

- Encourage students to continue exploring and learning about wireless networks on their own.